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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,111	06/23/2003	Hyang Ja Yang	SAM-0392	8471

7590 12/10/2004  
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EXAMINER
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NGUYEN, DANG T

ART UNIT	PAPER NUMBER
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2824

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/602,111

Applicant(s)

YANG ET AL.

Examiner

Dang T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-36 is/are allowed.
- 6) ☒ Claim(s) 37 is/are rejected.
- 7) ☒ Claim(s) 38 and 39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Search history.

### DETAILED ACTION

1. This office action is in response to applicant's amendment filed on 10/22/04.

Claims 1 and 22 have been amended. Claims 3 and 24 have been canceled. Claims 37 – 39 have been added. Claims 1 - 39 are pending on this application. Claims 1, 22, and 37 are independent claims.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 37 is rejected under 35 U.S.C. 102(b) as being anticipated by Kohno, U.S. patent No. 5,943,285 – filed Aug. 1, 1997.**

For the purpose of this rejection, a control circuit could be considered as a combination of a plurality of devices or circuits or means that involve in the operation of the memory device (read operation or write operation).

Figure 1 of Khan et al. discloses a semiconductor memory device comprising nine memory arrays [111, 121, 131, 141, 151, 161, 171, 181, and 191, Fig. 1] which are arranged in three rows [(111, 121, 131) would be a first row, (141, 151, 161) would be a second row, and (171, 181, 191) would be a third row] and three columns [(111, 141, 171) would be a first column, (121, 151, 181) would be a second row, and (131, 161, 191) would be a third column] (Col. 3 line 19), said nine memory arrays each having plurality of memory blocks (*each of memory array 111 or 121 includes a plurality of*

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*block; it is noted that a memory block would be considered a group of row and column of memory cell); and a control circuit [101, 102, 103, 104, 105, 106, 107, and 108] associated with said nine memory arrays (Col. 2 line 61 – Col. 3 line 17), said control circuits generating control signals (Col. 6 lines 45-46 and *the output signals from 102, 103, 104 would control the operation of the memory array*) and providing such control signals (as set forth above) to the nine memory arrays [111, 121, 131, 141, 151, 161, 171, 181, 191] such that the data input and output to from the nine memory arrays is controlled (see Fig. 2 and Fig. 5).*

### ***Allowable Subject Matter***

3. Claims 38 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

**With regard to claim 38**, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “one of the memory arrays is associated with a quantity of bits of one, two, four and eight bits, depending on a data input/output operational configuration of the memory device”.

**With regard to claim 39**, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “in a by-nine operational configuration, each of two of the first memory array is associate with four bits, and the second memory array is associated with a single bit”.

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4. Claims 1 - 36 are allowed.

The following is an examiner's statement of reasons for allowance:

**With respect to claims 1 and 22**, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest "one of the memory array is associated with a quantity of bits of one, two, four and eight bits depending on a data input/output operational configuration of the memory device".

***Prior art***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kotani et al.	Patent No. US 5,642,323	Date of Patent: Jun. 24, 1997
Hirose	Patent No. US 6,452,861 B1	Date of Patent: Sep. 17, 2002

**Conclusion**

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

7. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.


Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or [EBC@uspto.gov](mailto:EBC@uspto.gov).

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Dang Nguyen 12/1/2004

  
MICHAEL S. LEBENTRITT  
PRIMARY EXAMINER